

Amendment and Response

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Serial No.: 09/864,866

Confirmation No.: 2264

Filed: May 23, 2001

For: DNA REPAIR POLYPEPTIDES AND METHODS OF USE

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

Listing of Claims

1- 8. (Cancelled)

9. (Previously Presented) An isolated polypeptide comprising:
an amino acid sequence selected from the group consisting of SEQ ID NO:41, SEQ ID NO:42, and SEQ ID NO:43; and
a nuclear or mitochondrial targeting sequence.

10- 12. (Cancelled)

21. (Previously Presented) A method for increasing the repair rate of damaged bases in a cell, the method comprising introducing to a cell exposed to or at risk of exposure to an agent that damages DNA a composition comprising an amount of an isolated polypeptide effective to increase the repair rate of damaged DNA in the cell compared to a cell that does not comprise the polypeptide, wherein the polypeptide comprises an amino acid sequence selected from the group consisting of SEQ ID NO:41, SEQ ID NO:42, and SEQ ID NO:43, and wherein the polypeptide further comprises a nuclear or mitochondrial targeting sequence.

22- 24. (Cancelled)

25. (Currently Amended) A method for treating mutagenesis in a subject, the method comprising introducing to a subject exposed to or at risk of exposure to an agent that damages

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DNA a composition comprising an effective amount of an isolated polypeptide, wherein the polypeptide comprises an amino acid sequence selected from the group consisting of SEQ ID NO:41, SEQ ID NO:42, and SEQ ID NO:43, and wherein the polypeptide further comprises [[an]] a nuclear or mitochondrial targeting sequence.

26- 28. (Cancelled)

29. (Previously Presented) A method for treating immunosuppression in a subject, the method comprising introducing to a subject exposed to or at risk of exposure to an agent that damages DNA a composition comprising an effective amount of an isolated polypeptide, wherein the polypeptide comprises an amino acid sequence selected from the group consisting of SEQ ID NO:41, SEQ ID NO:42, and SEQ ID NO:43, and wherein the polypeptide further comprises a nuclear or mitochondrial targeting sequence.

30- 32. (Cancelled)

33. (Previously Presented) A method for treating tumor formation in a subject, the method comprising introducing to a subject exposed to or at risk of exposure to an agent that damages DNA a composition comprising an effective amount of an isolated polypeptide, wherein the polypeptide comprises an amino acid sequence selected from the group consisting of SEQ ID NO:41, SEQ ID NO:42, and SEQ ID NO:43, and wherein the polypeptide further comprises a nuclear or mitochondrial targeting sequence.

34- 36. (Cancelled)

37. (Previously Presented) A method for treating apoptotic cell formation in a subject, the method comprising introducing to a subject exposed to or at risk of exposure to an agent that damages DNA a composition comprising an effective amount of an isolated polypeptide,

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wherein the polypeptide comprises an amino acid sequence selected from the group consisting of SEQ ID NO:41, SEQ ID NO:42, and SEQ ID NO:43, and wherein the polypeptide further comprises a nuclear or mitochondrial targeting sequence.

38- 40. (Cancelled)

41. (Previously Presented) A composition comprising the polypeptide of claim 9 and a pharmaceutically acceptable carrier.

42- 44. (Cancelled)